The 15th
FEDERAL
FORECASTERS
CONFERENCE
2006

September 28, 2006
at the Bureau of Labor Statistics

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Bureau of Labor Statistics	U.S. Census Bureau
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FFC/2006

The 15th
Federal Forecasters Conference

September 28, 2006

Aging: Implications for Forecasting

Bureau of Labor Statistics (BLS) Conference and Training Center
2 Massachusetts Avenue N.E.
Washington, DC

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PARTNERING ORGANIZATION

Center for Economic Research, The George Washington University

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Conference at a Glance

Morning Session
8:00 a.m. – 11:45 p.m.

8:00 a.m. - 9:00 a.m.	**Registration** Conference Center Lobby
9:00 a.m. - 9:05 a.m.	**Opening Remarks**
9:05 a.m. - 9:10 a.m.	**Welcome**
9:10 a.m. – 9:20 a.m.	**Continuation of Remarks**
9:20 a.m. - 9:40 a.m.	**Award Presentations**
9:40 a.m. - 11:45 p.m.	**Keynote Speaker**
11:45 p.m. - 1:00 p.m.	**Lunch (On Your Own)**

Afternoon Concurrent Sessions
1:00 p.m. – 4:00 p.m.

1:00 p.m. - 2:15 p.m.	**Concurrent Sessions I**
2:15 p.m. - 2:30 p.m.	**Afternoon Break**
2:30 p.m. - 4:00 p.m.	**Concurrent Sessions II**

Room 1 .... 9:00 a.m. – 11:45 p.m.

Morning Session

9:00 a.m. - 9:05 a.m.   **Opening Remarks**

> Mitra Toossi
> FFC Chair
> Bureau of Labor Statistics
> U.S. Department of Labor

9:05 a.m. - 9:10 a.m.   **Welcome**

> Jack Galvin
> Associate Commissioner
> Office of Employment and Unemployment Statistics
> Bureau of Labor Statistics
> U.S. Department of Labor

9:10 a.m. - 9:20 a.m.   **Continuation of Remarks**

> Stephen MacDonald
> FFC Organizing Board
> U.S. Department of Agriculture

> Kathleen Sorensen
> FFC Organizing Board
> U.S. Department of Veterans Affairs

Room 1 .... 9:00 a.m. – 11:45 p.m.

Morning Session (continued)

9:20 a.m. - 9:40 a.m.   **Award Presentations**

FFC/2006 Forecasting Contest Winners

Brian W. Sloboda
Bureau of Transportation Statistics
U.S. Department of Transportation

FFC/2005 Best Conference Paper Awards

Terry Manzi
Internal Revenue Service
U.S. Department of the Treasury

Fred Joutz
Center for Economic Research
The George Washington University

Jeff Busse
U.S. Geological Survey
U.S. Department of the Interior

9:40 a.m. – 11:45 p.m.   **Introduction of Keynote Speaker**
                             Frederic Joutz
The George Washington University

Keynote Speaker

Dr. Laurence Meyer
Director of Macroeconomic Advisers, (LLC)
"Aging: Implications for forecasting"

The morning session's distinguished key note speaker is Dr. Laurence Meyer. He is a former Governor of the Federal Reserve Board and is co-founder, vice chairman, and director of Macroeconomic Advisers, LLC. He has also established the Monetary Policy Insights Service which provides forecasts of Federal Policy actions. He is a distinguished author of several economic books including, "A Term at the Fed, an Insider's View" and "Macroeconomics: a Model Building Approach."

Afternoon Concurrent Sessions

1:00 p.m. – 2:15 p.m.

Concurrent Sessions I

Model Development and Calibration

(Rooms 1 and 2)

Consumer Spending and Income

(Rooms 7 and 8)

Forecasting Trends, Cycles, and Recessions

(Rooms 9 and 10)

2:15 p.m. – 2:30 p.m.

Afternoon Break

2:30 p.m. – 4:00 p.m.

Concurrent Sessions II

Trade Impacts on Employment and Prices; Defense-Related Employment

(Rooms 1 and 2)

Finance and Health Topics Related to Aging

(Rooms 7 and 8)

Occupational Employment, Forecasts, and Analysis

(Rooms 9 and 10)

Concurrent Sessions I

1:00 p.m. - 2:15 p.m. .... Rooms 1 and 2

Model Development and Calibration

Session Chair: James Franklin, Bureau of Labor Statistics

Forecasting Mortality Using Bayesian Vector Autoregressive Methods

Javier Meseguer, Social Security Administration

The Lee-Carter model is often regarded as the benchmark approach to mortality forecasting by many U.S. and foreign government agencies. This paper explores the use of Bayesian vector autoregressive (BVAR) processes as a viable alternative. Under the so-called random-walk prior, BVAR models provide an extremely flexible framework, allowing the forecaster to accommodate the main empirical regularities characterizing age-specific mortality. Substantial gains in forecast performance can be achieved by appropriately calibrating the model, in order to preserve the temporal contiguity features of the data. In addition, the generated Bayesian predictive densities incorporate uncertainty due to variation in both the sample and parameter outcomes.

A Dynamic Analysis of Permanently Extending EGTRRA and JGTRRA: An Application of a Coordinated Calibration of Macroeconomic-and-Microsimulation Models to CBO's Baseline Projections

Tracy L. Foertsch, Ph.D. and Ralph A. Rector, Ph.D., The Heritage Foundation

Changes in tax policy can influence incentives to work, save, and invest. Subsequent changes in employment and incomes can impact tax revenues. Dynamic analyses capturing such interactions between taxes and the economy require coordination between macroeconomic models and microsimulation tax models. An important part of that coordination is calibration to a common baseline.

We calibrate Global Insight's U.S. macroeconomic model and a microsimulation individual income tax model to CBO's baseline economic-and-budgetary projections. The calibrated models are then used to simulate the economic-and-budget effects of permanently extending the provisions of the 2001-and-2003 tax laws set to expire in 2010.

Growth Defection Predictive Model

David Cruz and Kimberly Dawson, U.S. Postal Service
Halil E Esen and Poyraz Ozkan, Peppers and Rogers Group, A Division of Carlson Marketing Group

How profitable would your business be if you could predict your customers' next move? Identify growth customers, maximize revenue opportunities, and attack revenue loss problems before they become irreversible through forecasting. The Growth Defection Predictive Model developed by the U.S. Postal Service uses customer demographics, past purchase behavior, and customer comparisons to forecast future customer behavior. Providing insight for sales and service resource allocation, the model uses the logistic regression technique to help the U.S. Postal Service maintain its ability to be a self-funding Government agency.

1:00 p.m. - 2:15 p.m. .... **Rooms 7 and 8**

Consumer Spending and Income

Session Chair: Sioux Groves, Bureau of Labor Statistics

Impacts of Aging on Health Care Spending

Sean Keehan, Aaron Catlin, and Micah Hartman, Centers for Medicare & Medicaid Services

The aging of the U.S. population is often cited as the primary driver of future rapid growth in health care spending. This paper challenges the notion that the aging of the population alone will account for significant increases in aggregate health spending. In this paper, we discuss the methodology used to isolate the aging effect, report the results of our simulation over the coming decades, including the results of a sensitivity analysis. In closing, we discuss broader, more dynamic effects related to aging that may amplify the impacts on health care spending.

Employment Related to Personal Consumption Expenditures

Eric Figueroa, U.S. Department of Labor, Bureau of Labor Statistics

This study examines employment related to personal consumption expenditures. From 1994 to 2004, personal consumption expenditures grew faster than overall GDP, a trend expected to reverse over the projection period of 2004 to 2014. Using input-output methods developed by the Bureau of Labor Statistics, employment related to personal consumption expenditures for the 1994-2004 period is compared with expected employment for 2014. The impact of changing patterns of consumption spending is examined, and occupational employment data for 2004 and 2014 are compared.

Forecasting Wage Incomes Among Nonmetro Workers

John Angle, U.S. Department of Agriculture, Economic Research Service

The revenues and obligations of the Old Age, Survivors, and Disability Insurance (OASDI) program of the Social Security Administration are dependent on the future distribution of wage incomes. This paper shows that the distribution of wage incomes of nonmetro workers by age and education exhibits lawlike regularities which can be used for forecasting. This paper's model forecasts are tested and validated on earnings data of the March Current Population Survey, 1962-2004.

Forecasting Trends, Cycles, and Recessions

Session Chair: Brian Sloboda, Bureau of Transportation Statistics

Forecasting Food Stamp Caseloads: Trends in Relation to the Unemployment Rate as Influenced by Policy Changes

Kenneth Hanson, U.S. Department of Agriculture, Economic Research Service

Forecasts of the Food Stamp Program (FSP) caseload for budgeting purposes rely on the relationship between the unemployment rate and FSP caseloads. Forecasting the downturn in the FSP caseload following a turn in the unemployment rate is a challenging task. In addition to addressing the turning point issue, forecasting the FSP caseload should also account for several empirical regularities in the relationship between the FSP caseload and unemployment rate, such as lags and asymmetry. This paper brings together several methods to analyze the relationship between the unemployment rate and the FSP caseload so as to forecast the FSP caseload.

Cycles in the Transportation Services Index

Ken Notis, Peg Young, Gary Feuerrberg, Long Ngyuen, and Jennifer Brady, Bureau of Transportation Statistics

The Bureau of Transportation Statistics, an agency within the Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation, publishes the Transportation Services Index (TSI), a monthly output index on U.S. transportation services for-hire. This presentation examines known recessions and growth cycles in the US economy since 1979, and compares the three components of the TSI (total, passenger and freight) to the US economy by identifying TSI turning points in a systematic way and comparing the turning points with all of the various peaks and troughs of the cycles.

A Phase-Plane Model of the Business Cycle: Recessions of 1990 and 2007?

Foster Morrison and Nancy L. Morrison, Turtle Hollow Associates, INC

A phase-plane model of the business cycle has demonstrated remarkable robustness through more than a decade of revisions of the indices of leading, lagging, and coincident indicators upon which it based. The changes in the phase angles and the proportions of the radii have been almost negligible. The recession of 1990 was the first one tracked in "real time," so its development is compared with what has happened to date in the next recession, which may begin in 2007, if not sooner.

Concurrent Sessions II

2:30 p.m. - 4:00 p.m. .... **Rooms 1 and 2**

Trade Impacts on Employment and Prices; Defense-Related Employment

Session Chair: Kimberly Dawson, U.S. Postal Service

Cotton Price Forecasting and Structural Change

Stephen MacDonald, Economic Research Service

Reduced form cotton price models are generally specified with world ending stocks and China's trade as key independent variables. Changes in world cotton markets have altered the relationship between these variables and prices. The global adoption of Bt cotton has reduced the cost of production, and changes in the timing of cotton harvesting have added to estimated ending stocks. Finally, China's imports have surged to 16 percent of world consumption, from about 2 percent in earlier years. This paper will explore how information from periods preceding structural change can be subsequently used in forecasting.

Estimating Defense-Related Employment

Eric Figueroa, U.S. Department of Labor, Bureau of Labor Statistics

In 2003, the Bureau of Economic Analysis (BEA) issued a comprehensive revision to the National Income and Product Accounts (NIPAs) explicitly recognizing services produced by government. This recognition has implications for the projection of defense-related employment prepared by the Bureau of Labor Statistics (BLS). This paper will describe the impact of the BEA revisions on the input-output methods used by BLS for its projections. Plans by BLS to accommodate the revision as well as projected employment data will be presented.

The Effects of Foreign Trade on Employment

Mirko Novakovic and Betty W. Su, U.S. Department of Labor, Bureau of Labor Statistics

We are in the age of globalization. Over the past two decades, the growing economic interdependence of countries worldwide through increasing volume and variety of cross-border transactions in goods and services, free international capital flows, and more rapid and widespread diffusion of technology have become increasingly important in U.S. economic activity. This study focuses on relationships between shifting trade flows and changing employment levels among industries in the U.S. economy. Using the available historical data and the most recent U.S. economic and employment projections developed by the Bureau of Labor Statistics, the trade-related jobs by industry are compared for the 1998-2004 and the 2004-2014 periods, and conclusions are drawn regarding the impacts of accelerating globalization on the U.S. economy.

2:30 p.m. - 4:00 p.m. .... **Rooms 7 and 8**

Finance and Health Topics Related to Aging

Session Chair: Terry Manzi, Internal Revenue Service

Aging and Bankruptcy

John Golmant and Tom Ulrich, AO U.S. Courts

> The purpose of this study is to examine the distribution of ages of bankruptcy filers over time. The degree to which bankruptcy, the legal means by which a debtor can establish a "fresh start" from burdensome debt, is a function of age has not previously been studied in a comprehensive manner. The study shows that the population of bankruptcy petitioners is getting older at a faster rate than that of the general population. Older individuals are increasingly likely to file for bankruptcy, and there could be an influx of new bankruptcy petitions as the baby boom generation continues to age.

Patterns of Mortality at Late Age for Major U.S. Race-Ethnic Groups

Ward Kingkade, Population Projections Branch, Bureau of Census

> Ethnic differences in mortality at late age have attracted considerable discussion, most notably in terms of the Black/White crossover in age-specific death rates as well as the significantly lower death rates among the Hispanic population relative to others. The proposed paper presents an analysis of US mortality data in race-ethnic detail, by sex and single-year age, from age 60 to 100+, relying on a time series of mortality rates from 1984 to 1999 for three major race-ethnic categories (Hispanic, Black Non-Hispanic, and Non-Black Non-Hispanic). The dynamics of mortality rates by sex and single-year age for these categories are examined. The impact of alternative graduations, including those suggested by Thatcher and associates (1998) are investigated with special attention to how they impinge on the questions mentioned above.

Expected Future Use of VA Long Term Care: Small Area Estimates of Use Conditional on Disability and Significance of VA Provided Protection Against State-Specific Medicaid Spenddown Requirements

George Sheldon, Department of Veterans Affairs

> The Department of Veterans Affairs health care system serves a veteran population characterized by old age and low income. For many of these veterans, VA and Medicaid are the two principle long term health care financing alternatives. This paper describes methods of estimating the future use of VA financed long term care within market areas defined as aggregations of counties. The paper describes methods (logistic regression) where relatively small but information-rich surveys (i.e., National Health Interview Survey, National Long Term Care Survey) are used to derive the probabilities of being disabled associated with various subpopulations of veterans. These probabilities are then used to weight Census 2000 sample data celled to describe the same subpopulations. The results are estimates of ADL-measured disabled veterans. Expected future VA LTC use estimates are derived taking into account that VA may provide veterans with protection against Medicaid spenddown requirements as imposed by various states.

2:30 p.m. - 4:00 p.m. .... **Rooms 9 & 10**

Occupational Employment, Forecasts, and Analysis

Session Chair: George Stamas, Bureau of Labor Statistics

Proposed Forecasting Methodology for Dental Students and Residents Seeking Employment with VA

Dilpreet K. Singh, MS, MPA; Timothy Ward, MA, DDS; Gloria J. Holland, PhD; Linda D. Johnson, PhD, RN; Evert M. Melander, MBA, Office of Academic Affiliations, U.S. Department of Veterans Affairs

Growth in the elderly population has a great impact on the demand for dental services. The Veterans Health Administration (VHA) is the largest single provider of health care professions training in the world. A significant percent of all dental students and residents trained in the United States receive part of their training at VA. VA clinical trainees can be a great source of future recruits at VA. A Learners' Perceptions Survey was developed to measure satisfaction with the VA clinical training program and to further help in recruitment and retention of health care professionals. This paper includes a review of methodologies for forecasting the percent of dental students and residents trained at VA who may seek employment with VA.

An Evaluation of the National Center for Education Statistics Projections of Newly Hired Teachers

William Hussar, Department of Education

This paper is a follow-up to the 1999 National Center for Education Statistics (NCES) report, Predicting the Need for Newly Hired Teachers in the United States to 2008–09 (Hussar 1999). In that earlier report, projections for the number of newly hired teachers to 2008–09 were presented for both the public and private sectors. These projections were developed using an algebraic model based on teacher demographic data from 1993–94 Schools and Staffing Surveys (SASS) and 1994–95 Teacher Follow-up Surveys (TFS). The first section of this report reviews the methodology used to produce projections of newly hired teachers and the assumptions underlying this methodology. The second section consists of an evaluation of the 1999–2000 and 2003–04 projections of the newly hired teachers from the original report using data from the 1999–2000 SASS and the 2003–04 SASS. In this section, the percentage difference between the actual numbers and the projections are calculated and possible explanations are offered for some of the larger differences. Beside the evaluation of the teacher projections, there is also an evaluation of projections of the age distribution for 1999–2000 and 2003–04.

Occupational Change during the 20th Century

Ian Wyatt, Bureau of Labor Statistics

Occupational changes during the 20th Century provides an analysis of census occupational data over the 1910-2000 period. While some changes may be obvious, such as the decline of agricultural employment, the scale of the changes is still quite impressive. Other changes, such as the trends in the employment of lawyers, are quite surprising. In addition to simply describing the changes, the article attempts to explain the causes of the many changes in occupational employment.

Employment Derived from Business Investment

Katy Byun, U.S. Department of Labor, Bureau of Labor Statistics

In order to arrive at the published biennial employment projections, the Office of Occupational Statistics and Employment Projections first forecasts final demand. Consequently, the employment and output arising from each component of final demand (consumption, investment, government expenditures, and trade) can be calculated. This paper analyzes the domestic employment for detailed occupations and industries generated by business investment. The results are compared to overall employment from total final demand. Individual components of investment will also be evaluated to see if they are growing or declining from 1998 to 2004 as well as in the 2014 projected levels.

NOTES